

**THIS OPINION WAS NOT WRITTEN FOR PUBLICATION**

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DEEPAK K. PAI

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Appeal No. 95-1375  
Application 08/023,602<sup>1</sup>

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ON BRIEF

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Before JOHN D. SMITH, GARRIS and WEIFFENBACH, *Administrative Patent Judges*.

WEIFFENBACH, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is a decision on appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1-10 and 17 which are the only claims remaining in the application.<sup>2</sup> We reverse.

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<sup>1</sup>Application for patent filed February 26, 1993.

<sup>2</sup>In the final rejection, claims 1-10 and 15-18 were rejected for obviousness. In an amendment after final (paper no. 9), appellant, *inter alia*, canceled claims 15, 16 and 18 and amended claims 7 and 17. In an advisory action (paper no. 10), the examiner approved entry of the amendment and indicated that upon filing an appeal the status of the claims would be that claims 1-10 and 17 would be rejected. Accordingly, the rejection of claims 1-10 and 17 are before us for consideration.

### **The Claimed Subject Matter**

The claimed subject matter is directed to a method for machining a laminate structure to form selected shapes. Claim 1 is representative of the claimed subject matter and reads as follows:

1. A method for manufacturing a laminate structure to form a selected shape comprising:

laminating a first dielectric layer onto a surface of a substrate to form a laminate structure;

forming a first protective structure in the first dielectric layer and on the substrate utilizing a first photolithographic mask, at least a portion of the first protective structure defining the selected shape; and

machining the laminate structure along the first protective structure to at least a portion of the selected shape.

### **Prior Art Reference**

The following prior art reference is relied upon by the examiner in support of the rejection of the claims for obviousness:

Okano

HEI 2[1990]-121387  
Japanese Kôkai Patent Application

May 9, 1990

### **The Rejection**

Claims 1-10 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Okano “in view of the disclosed state of the prior art” (answer: p. 2).

### Opinion

We have carefully considered the entire record in light of the respective positions advanced by appellant and the examiner. In doing so, we will not sustain the rejection of the claims for obviousness.

It is well settled that the examiner has the initial burden of establishing a *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). This burden can be satisfied when the examiner provides objective evidence that some teaching or suggestion in the applied prior art, or knowledge generally available, would have led one of ordinary skill in the art to combine the teachings of the references and to produce the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In the case before us, the examiner has not provided a single, coherent reason, based on the applied reference or general knowledge of the art, as to why it would have been obvious to one of ordinary skill in the art to arrive at the claimed method.

Claim 1, the sole independent claim on appeal, defines a three step process comprising (i) laminating a first dielectric layer onto the surface of a substrate, (ii) forming a first protective structure in the first dielectric layer and on the substrate using a photographic mask, and (iii) machining the laminate structure along the first protective structure. According to appellant, the point of novelty of the claimed invention is the formation of the protective structure to define regions along which the laminate structure may be machined so that delamination of the laminate structure does not occur (brief: p. 2). The examiner stated the rejection as follows:

[Okano] teaches the use of a protective layer for machining with a laser. The teachings of [Okano] differ from those of the applicant in that the applicant teaches the use of a protective layer with areas removed for the purposes of protecting a surface from a mechanical machine while using the machine to remove material from said surface. However, the prior art teaches the use of machining a surface and the problems that occur when said machine tool comes in contact with the surface to be machined. Therefore, it would have been obvious to one having ordinary skill in the art to take the teachings of [Okano] and combine them with the knowledge of the prior art to make the method and mask of the applicant because one would know from the prior art to protect the surface in the areas that are to be contacted by the machining tool whatever type of tool it is. [Answer: p. 4.]

The examiner has not explained how Okano teaches the use of a protective layer for machining with a laser. The claim requires that the formation of a protective structure and that the structure is formed in the dielectric layer and on the substrate. Okano shows a protective layer which is formed on the dielectric layer only. None of the embodiments of Okano nor the examiner's statement of the disclosed state of the prior art as set forth in the answer teach or suggest forming the protective layer in the dielectric layer and on the substrate. Moreover, neither Okano nor the examiner's statement of the disclosed state of the prior art disclose or suggest machining the laminated structure along the protective structure. It is well settled that the claims are interpreted in light of the specification as it would be interpreted by one of ordinary skill in this art. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). We find that one having ordinary skill in the art upon reviewing appellant's specification would have concluded that the machining along the protective structure means that the machining occurs along the edge of the protective structure as depicted in Fig. 4 of the application as described on page 13, lines 12-15 of appellant's specification. Okano does not disclose or suggest

machining the edge of the protective layer, but machining through the protective layer. The examiner's conclusion that one having ordinary skill in the art would have been led to the claimed subject matter because the art teaches the necessity of protecting the surface of the areas to be contacted by the machining tool does not explain how the teachings of the disclosed state of the prior art and especially Okano, who forms a protective layer only over the dielectric layer and who does not machine along the edge of the protective layer, would have led a person having ordinary skill in the art to conclude that the delamination problem would have been solved by forming a protective structure in the dielectric layer and on the substrate, and machining the dielectric layer and substrate along the protective structure.

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For the reasons given above, we find that the examiner has not established a *prima facie* case of obviousness over Okano and the disclosed state of the prior art. Accordingly, the decision of the examiner is reversed.

**REVERSED**

JOHN D. SMITH	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
BRADLEY R. GARRIS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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